

Use Attainability Analysis

for

WBID 0889 Clear Creek

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

Date Received: June 3, 2007

Field Data Sheets for Recreation Use Stream Surveys
Data Sheet A - Water Body Identification
(For water body being surveyed)

Water Body Information

Water Body Name:	clear creek	WBID:	889
8 digit HUC code:	10300103	County:	cooper
Upstream Legal Description	47N19W22		
Downstream Legal Description	48N19W32		
Number of Sites Evaluated	3		
List all site numbers, listed upstream to downstream			
	1	2	3

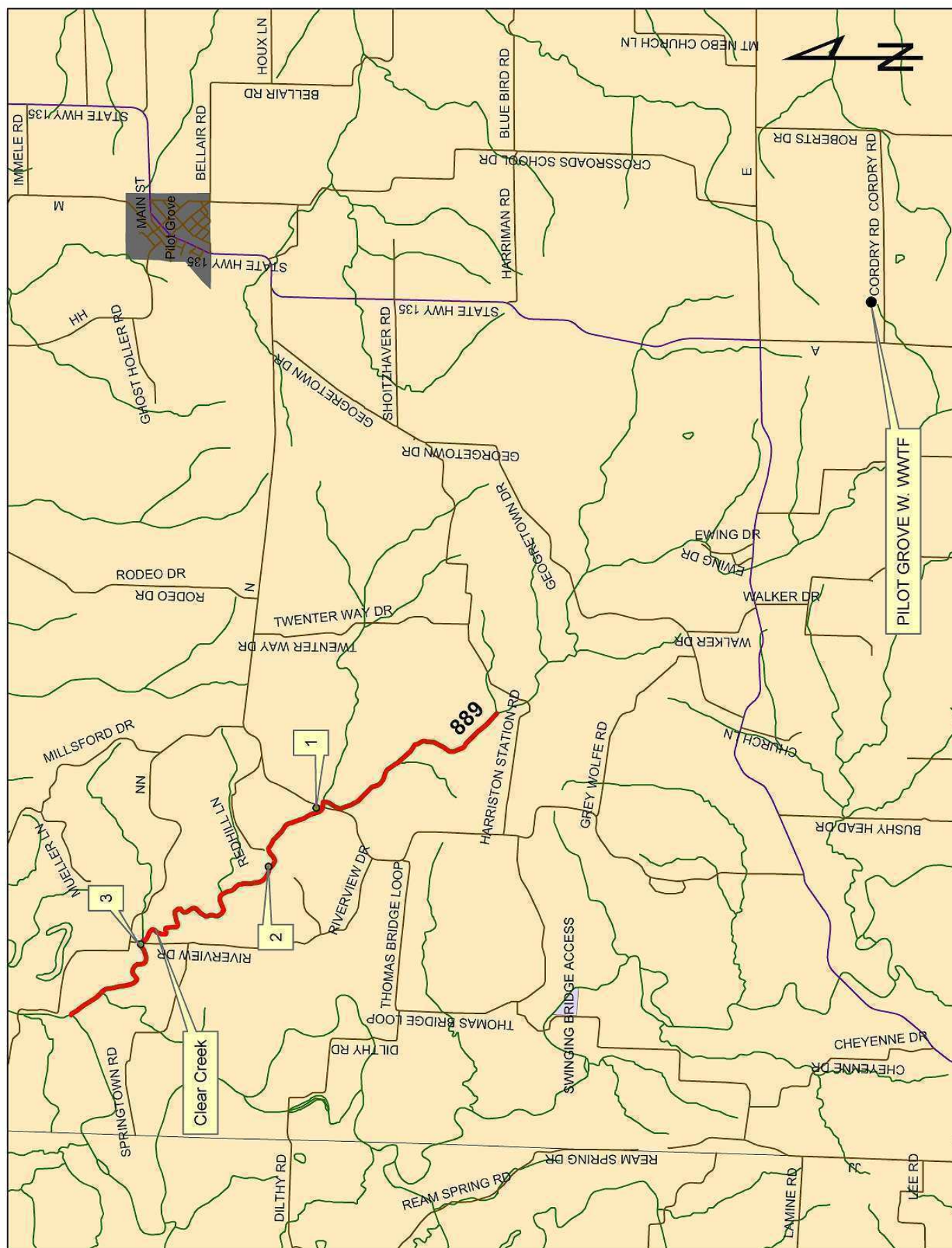
Discharger Facility Information

Discharger Facility Name(s): pilot grove W WWTF
Discharger Permit Number(s): MO 0093068

UAA Surveyor

Name of Surveyor:	Gilisa Gould	Telephone Number:	913-307-0046
Organization/Employer: SES, Inc.			
Position: Field Team Leader			

Signed: _____ Date: _____



Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 889
 Site # 1

Date and Time: 5.14.07 5:50 PM

Current Weather Conditions clear

Weather Conditions for Past 10 days: cloudy

Drought Conditions? No

Site Location (e.g. road crossing) crossing at N road

GPS Mark: 22

Upstream Photo 41 Downstream Photo 40

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

WBID # 889 **Site #** 1
Mark # 22 **Dissolved Oxygen (ppm)** 9.7
Upstream Views Physical Dimensions: Is there any water present at this view? yes
 If so, is there an obvious current? yes

Select one of the following channel features:

	% of Channel Feature				
Riffle	55%				
Run	0%				
Pool	45%				

Downstream View's Physical Dimensions: Is there any water present at this view?

If so, is there an obvious current?

Substrate:

33% Cobble	52% Gravel	14% Sand	0% Silt
0% Mud/Clay	0% Bedrock		

Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

algae on rock, minimal amount

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 1

Mark # 22

0889_Clear Creek_Cooper

	Depth (m)
Transect 1	0.00
Substrate:	0.10
gravel, cobble	0.15
Water Clarity:	0.15
clear	0.20
Channel Feature:	0.20
riffle	0.15
Channel Width:	0.15
7.00	0.15
0.15	0.10
Transect 2	0.15
Substrate:	0.30
gravel, cobble	0.20
Water Clarity:	0.15
clear	0.10
Channel Feature:	0.10
pool	0.10
Channel Width:	0.05
8.00	0.10
0.10	0.05
Transect 3	0.00
Substrate:	0.30
cobble, gravel	0.70
Water Clarity:	1.00
clear	1.00
Channel Feature:	1.00
pool	1.00
Channel Width:	1.00
8.00	1.00
1.00	1.00
Transect 4	0.00
Substrate:	0.30
gravel, cobble	0.60
Water Clarity:	0.65
clear	0.70
Channel Feature:	0.65
pool	0.40
Channel Width:	0.30
10.00	0.20
0.35	0.05

	Depth (m)
Transect 5	0.00
Substrate:	0.20
gravel	0.00
Water Clarity:	0.00
clear	0.15
Channel Feature:	0.15
riffle	0.15
Channel Width:	0.25
15.00	0.35
0.15	0.10
Transect 6	0.45
Substrate:	0.65
gravel, sand	0.75
Water Clarity:	0.55
clear	0.30
Channel Feature:	0.25
pool	0.10
Channel Width:	0.05
7.00	0.05
0.28	0.00
Transect 7	0.00
Substrate:	0.10
gravel, sand	0.15
Water Clarity:	0.25
clear	0.30
Channel Feature:	0.30
pool	0.30
Channel Width:	0.40
7.00	0.40
0.28	0.25
Transect 8	0.05
Substrate:	0.10
gravel, sand	0.15
Water Clarity:	0.25
clear	0.20
Channel Feature:	0.20
riffle	0.15
Channel Width:	0.05
7.00	0.05
0.13	0.00

	Depth (m)
Transect 9	.
Substrate:	0.05
cobble, gravel	0.10
Water Clarity:	0.15
clear	0.05
Channel Feature:	0.05
riffle	0.10
Channel Width:	0.10
18.00	0.20
0.10	0.25
Transect 10	0.05
Substrate:	0.20
cobble, gravel	0.10
Water Clarity:	0.10
clear	0.15
Channel Feature:	0.15
riffle	0.10
Channel Width:	0.05
13.00	0.05
0.10	0.00
Transect 11	0.05
Substrate:	0.05
cobble, gravel	0.10
Water Clarity:	0.10
clear	0.10
Channel Feature:	0.10
riffle	0.10
Channel Width:	0.10
10.00	0.15
0.10	0.10
Site Median	Site Maximum
0.15	1.00

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 889
 Site # 2

Date and Time: 5.22.07 9:45 AM

Current Weather Conditions cloudy, light precipitation

Weather Conditions for Past 10 days:

Drought Conditions? No

Site Location (e.g. road crossing) midway, on redhill road

GPS Mark: 1

Upstream Photo 2 Downstream Photo 3

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

WBID # 889 **Site #** 2
Mark # 1 **Dissolved Oxygen (ppm)** 8.2
Upstream Views Physical Dimensions: Is there any water present at this view? yes
 If so, is there an obvious current? yes

Select one of the following channel features:

	% of Channel Feature				
Riffle	27%				
Run	0%				
Pool	72%				

Downstream View's Physical Dimensions: Is there any water present at this view?

If so, is there an obvious current?

Substrate:

28% Cobble	39% Gravel	22% Sand	11% Silt
0% Mud/Clay	0% Bedrock		

Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

5 out of the 11 transects had vegetation, no algae

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 2

Mark # 1

0889_Clear Creek_Cooper

	Depth (m)
Transect 1	0.00
Substrate:	0.00
gravel	0.05
Water Clarity:	0.15
clear	0.15
Channel Feature:	0.20
riffle	0.10
Channel Width:	0.05
10.00	0.05
0.08	0.10
Transect 2	0.05
Substrate:	0.10
gravel	0.00
Water Clarity:	0.05
clear	0.25
Channel Feature:	0.25
riffle	0.25
Channel Width:	0.20
15.00	0.20
0.18	0.15
Transect 3	0.00
Substrate:	0.20
gravel	0.30
Water Clarity:	0.50
cloudy	0.65
Channel Feature:	0.70
pool	0.70
Channel Width:	0.70
11.00	0.50
0.50	0.20
Transect 4	0.05
Substrate:	0.25
gravel	0.40
Water Clarity:	0.55
murky	0.70
Channel Feature:	0.80
pool	0.80
Channel Width:	0.80
10.00	0.50
0.53	0.30

	Depth (m)
Transect 5	0.00
Substrate:	0.20
gravel. Silt	0.25
Water Clarity:	0.40
murky	0.45
Channel Feature:	0.45
pool	0.30
Channel Width:	0.35
10.00	0.40
0.33	0.30
Transect 6	0.00
Substrate:	0.15
cobble, sand	0.30
Water Clarity:	0.30
clear	0.30
Channel Feature:	0.25
pool	0.25
Channel Width:	0.30
9.00	0.20
0.25	0.10
Transect 7	0.50
Substrate:	0.25
cobble, sand	0.05
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
riffle	0.10
Channel Width:	0.10
15.00	0.05
0.05	0.05
Transect 8	0.10
Substrate:	0.20
gravel. Silt	0.30
Water Clarity:	0.50
clear	0.50
Channel Feature:	0.50
pool	0.40
Channel Width:	0.25
13.00	0.15
0.28	0.05

	Depth (m)
Transect 9	0.05
Substrate:	0.10
cobble, gravel	0.10
Water Clarity:	0.15
clear	0.20
Channel Feature:	0.20
pool	0.15
Channel Width:	0.15
13.00	0.15
0.15	0.10
Transect 10	0.00
Substrate:	0.10
cobble, sand	0.15
Water Clarity:	0.30
clear	0.60
Channel Feature:	0.60
pool	0.20
Channel Width:	0.20
10.00	0.25
0.20	0.20
Transect 11	0.10
Substrate:	0.20
cobble, sand	0.00
Water Clarity:	0.20
clear	0.30
Channel Feature:	0.15
pool	0.05
Channel Width:	0.10
14.00	0.05
0.10	0.00

Site Median	Site Maximum
0.20	0.80

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

WBID 889
 Site # 3

Date and Time: 5.22.07 10:40 PM

Current Weather Conditions cloudy, light precipitation

Weather Conditions for Past 10 days:

Drought Conditions? No

Site Location (e.g. road crossing) riverview road crossing

GPS Mark: 2

Upstream Photo 4 Downstream Photo 5

Uses Observed (Uses actually observed at time of survey) Circle

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	Other	

Surrounding Conditions

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	Other	

Indications of Human Use

Roads	Rope swings	Foot paths/prints	Dock/platform
Livestock Watering	RV/ATV Tracks	Camping Sites	Fire pit/ring
NPDES Discharge	Fishing Tackle	Other:	

WBID # 889 **Site #** 3
Mark # 2 **Dissolved Oxygen (ppm)** 7.3
Upstream Views Physical Dimensions: Is there any water present at this view? yes
 If so, is there an obvious current? yes

Select one of the following channel features:

	% of Channel Feature				
Riffle	17%				
Run	8%				
Pool	75%				

Downstream View's Physical Dimensions: Is there any water present at this view?

If so, is there an obvious current?

Substrate:

0% Cobble	44% Gravel	0% Sand	12% Silt
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0% Mud/Clay	0% Bedrock
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Aquatic Vegetation: (Note amount of vegetation or algal growth at the assessment site)

Water Characteristics

Odor	Sewage	Musky	Chemical	None	Other
Color	Clear	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	Other
Surface Deposit	Oil	Scum	Foam	None	Other

Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)
(Median Depth Shown in Bold)

Site # 3

Mark # 2

0889_Clear Creek_Cooper

	Depth (m)
Transect 1	0.15
Substrate:	0.25
clay	0.50
Water Clarity:	0.65
murky	0.70
Channel Feature:	0.70
pool	0.65
Channel Width:	0.50
8.00	0.30
0.50	0.20
Transect 2	0.10
Substrate:	0.35
clay	0.50
Water Clarity:	0.45
murky	0.35
Channel Feature:	0.30
pool	0.25
Channel Width:	0.15
8.00	0.05
0.28	0.00
Transect 3	0.05
Substrate:	0.25
clay	0.45
Water Clarity:	0.70
murky	0.80
Channel Feature:	0.85
pool	0.65
Channel Width:	0.60
8.00	0.50
0.55	0.15
Transect 4	0.20
Substrate:	0.45
gravel, clay	0.70
Water Clarity:	0.80
murky	0.60
Channel Feature:	0.40
riffle/pool	0.00
Channel Width:	0.00
13.00	0.15
0.30	0.10

	Depth (m)
Transect 5	0.20
Substrate:	0.35
clay, gravel	0.60
Water Clarity:	0.70
murky	1.00
Channel Feature:	1.00
pool	1.00
Channel Width:	1.00
13.00	1.00
1.00	1.00
Transect 6	0.10
Substrate:	0.35
clay, gravel	0.50
Water Clarity:	0.75
murky	0.80
Channel Feature:	1.00
pool	1.00
Channel Width:	1.00
11.00	1.00
0.78	0.70
Transect 7	0.05
Substrate:	0.25
silt, clay	0.40
Water Clarity:	0.60
murky	0.85
Channel Feature:	1.00
pool	1.00
Channel Width:	1.00
14.00	0.70
0.65	0.50
Transect 8	0.20
Substrate:	0.30
gravel, silt	0.40
Water Clarity:	0.50
murky	0.55
Channel Feature:	0.60
pool	0.70
Channel Width:	0.50
14.00	0.40
0.45	0.30

	Depth (m)
Transect 9	0.10
Substrate:	0.35
gravel	0.40
Water Clarity:	0.45
murky	0.60
Channel Feature:	0.60
pool	0.55
Channel Width:	0.55
14.00	0.55
0.50	0.35
Transect 10	0.15
Substrate:	0.25
gravel	0.20
Water Clarity:	0.10
murky	0.00
Channel Feature:	0.00
run	0.00
Channel Width:	0.00
11.00	0.00
0.03	0.05
Transect 11	0.00
Substrate:	0.10
gravel	0.15
Water Clarity:	0.05
clousy	0.05
Channel Feature:	0.05
riffle	0.05
Channel Width:	0.05
13.00	0.00
0.05	0.00

Site Median	Site Maximum
0.40	1.00

Site 1

Downstream

Photo 40

WBID# 889



Site 1

Upstream

Photo 41

WBID# 889



Site 2

Downstream

Photo 3

WBID# 889



Site 2

Upstream

Photo 2

WBID# 889



Site 3

Downstream

Photo 5

WBID# 889



Site 3

Upstream

Photo 4

WBID# 889

